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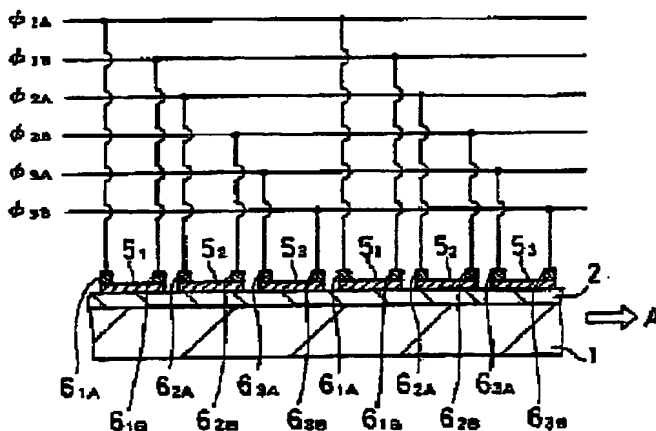
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TITLE : CHARGE COUPLED DEVICE AND
METHOD FOR DRIVING IT



ABSTRACT : PURPOSE: To shorten a transfer time and to improve transfer efficiency.

CONSTITUTION: Transfer gate electrodes 51, 52, 53 consisting of high resistance polysilicon are arranged in a line repeatedly through an SiO₂ layer 2 on a substrate 1, and the transfer gate electrodes are provided with metal electrodes 61A, 62A, 63A on respective end parts of the opposite side to a charge transfer direction and provided with metal electrodes 61B, 62B, 63B on the end part of the charge transfer direction. Transfer clock pulses ϕ_1A , ϕ_2A , ϕ_3A (maximum V_2 , minimum V_1 of voltage value) are supplied to the metal electrodes 61A, 62A, 63A and the transfer clock pulses ϕ_1B , ϕ_2B , ϕ_3B (maximum $V_3(>V_2)$, minimum V_1 of voltage value) are supplied to the metal electrodes 61B, 62B, 63B. Electric field is generated under the transfer gate electrodes whose intensity enlarges in creasingly from the opposite direction side to the charge transfer direction facing to the charge transfer direction side and a potential well is formed on the boundary of Si-SiO₂ under the transfer gate electrode whose depth increases from the opposite direction side to the charge transfer direction facing to the charge transfer direction side.

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SEARCH REPORT